



Review: An Ecological Intepretation of History

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Ecological Imperialism: The Biological Expansion of Europe, 900-1900 by Alfred W. Crosby

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On the left-hand pages of the handbook are individual "species treatments" covering the 646 avian species that regularly breed in North America north of Mexico. These synopses contain information on each species' breeding behavior, nest structure and location, eggs, incubation and nestling periods, and food and foraging strategies, as well as special notes and bibliographic references associated with each. Also included is a heading called "conservation," under which details on species' wintering distributions south of the United States, possible range expansions and contractions, and threats are mentioned. The information in these summaries is presented in an abbreviated form using a combination of prose, key words, abbreviations, symbols, and pictures.

These accounts are a gold mine of information. Given the mass of data that needed to be researched and then condensed into these summaries, there are bound to be errors and omissions. However, one of the most interesting and worthwhile "holes" in these data are the many entries in which the authors purposely draw attention to the gaps in existing knowledge. There are *hundreds* of such entries, denoted by a question mark, for which the information is incomplete, unconfirmed, or missing. The authors write, "throughout the treatments you should consider the '?' to be a signal to alert you to an opportunity to contribute to the knowledge of avian biology." *The birder's handbook* thus becomes a guide to the questions

that need to be answered and the fieldwork that still needs to be carried out.

Each species treatment also includes reference to one or more of the approximately 250 short essays found on the right-hand pages of the book. These essays are fascinating and a delight to read. A sample of topics covered includes: avian promiscuity, the color of eggs, vocal development and dialects, nest materials, creches, mixed-species flocking, piracy, brood parasitism, the Labrador Duck and Passenger Pigeon, shorebird migration and conservation, avian "snowshoes," hearing and the sense of smell in birds, bird droppings, feather molt, anting, swallowing stones, flight speeds and altitudes, hybridization, bird biologists, and bird banding.

Also included in the handbook are subject, species, and essay indices; a *very* extensive bibliography; and appendices on such topics as Hawaiian bird biology, feral and pelagic species, and the use of DNA studies in passerine classification.

All in all, *The birder's handbook* is both an invaluable reference and an excellent educational tool. And at the suggested retail prices it is also an incredible bargain. I strongly recommend it.

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AN ECOLOGICAL INTERPRETATION OF HISTORY

Crosby, Alfred W. 1986. **Ecological imperialism: the biological expansion of Europe, 900–1900**. Studies in Environment and History. Columbia University Press, New York. xiv + 368 p. \$24.95 (cloth), ISBN: 0-521-32009-7; \$10.95 (paper), ISBN: 0-521-33613-9.

During the last millennium, European humans have spread into many lands around the world. In some cases they had political but not numerical dominance—in Africa and India, for instance, where they eventually had to surrender much of their rulership. But in several other locations, such as the United States, Australia, Argentina, and New Zealand, the Europeans not only gained military supremacy over the native peoples but largely or completely replaced them, making the European takeover permanent. Crosby, Professor of American Studies at the University of Texas at Austin, describes European invasions of the Canary Islands, North America, Argentina, and finally New Zealand, and the transformations of these lands into "Neo-Europes." He argues that in all of these successful invasions, the advantages possessed by the Europeans were *ecological*. Crosby's theory contrasts with the military and sociological reasons usually offered by historians.

According to Crosby, these lands were Europeanized not simply because of the entry of the Europeans but also because of the entry of their "portmanteau biota"; the plants, animals, and microorganisms Europeans carried with them transformed the environments and made the lands less suitable to the native people while at the same time more suitable for Europeans.

Among the introduced organisms were human pathogens. The indigenes of these lands were descendants of a small number of healthy colonizers; both because of their small number and of their health, they brought few diseases with them. Once they arrived their relatively low densities insured that their populations would maintain relatively few pathogens. The importance of disease in influencing the course of history has long been recognized (e.g., Hans Zinsser's 1935 *Rats, lice and history*, Little, Brown). Epidemiologists and scholars of medical history (for instance, Rene Dubos in his 1965 *Man adapting*, Yale) have long known that indigenous populations without a history of contact with such pathogens experience massive mortality upon first exposure and that later the mortality rate decreases as host and pathogen adjust by coevolution. However, such epidemics are usually presented as byproducts, occurring after the European conquest was completed. Crosby, however, explains that the Europeans introduced many diseases, smallpox the most devastating, which *preceded* the conquerors, decimating the native populations before the Europeans had advanced very far. Crosby cites evidence of great population densities and centers of commerce among Native Americans visited by 16th Century Spaniards, in contrast to the sparse populations found by the 18th Century French—a reduction he attributes to smallpox. This idea, while not new (see Francis Jennings' 1975 *The invasion of America: Indians, colonialism, and the cant of conquest*, North Carolina), bears repeating.

The Europeans also introduced weeds capable of growing rapidly and reproducing heavily in temporary, disturbed habitats, and domesticated animals, many of which became feral

and produced in some cases (especially in the pampas of Argentina) prodigious populations which made the land unsuitable for the lifestyles of the indigenous humans. In addition, European agricultural activities caused soil erosion that further reduced the ability of the land to support traditional indigenous life. We are not entirely convinced that this ecological transformation was a direct cause of the massive decline of indigenous populations, since many indigenous peoples have adapted readily not only to the use of European plants and animals but even to European culture without brushing against extinction, but the argument is worth exploring.

In other cases, European expansion had only temporary success, explains Crosby, for reasons that were likewise ecological. The Vikings failed to proliferate in North America partly because they brought few diseases which could decimate the natives. The Vikings themselves, and their descendants into the 18th Century, were ravaged by smallpox as severely as the American natives. The Crusaders invaded a densely populated land that had a large number of indigenous diseases as well as plants and animals adapted to androgenous disturbances. Central Africa and other tropical regions likewise had many indigenous diseases of humans and of crops, and large populations of grazing animals that could successfully compete with European animals. ("In the long run," says Crosby, "the humid tropics proved to be a mouthful for which Europe had the teeth, but not the stomach.")

Crosby, unlike most historians, understands ecology. Taken together with the clear and delightful writing, Crosby's documentation makes the book fascinating and compelling. There are few concepts presented, however, that will prove surprising to ecologists; we recommend this book primarily for its success in conveying to students and to our colleagues outside of biology the tremendous significance of ecological principles in their fields of study.

Crosby makes little effort to place the events he chronicles into an ethical context. Indeed, he implies that the Europeanization of large parts of the world was an unfortunate consequence of inevitable contact of disease-ridden Europeans with immunologically-unprepared tribespeople. But for many of us, ethical consequences are apparent. Our mistreatment of our ecosystems is unethical not only because of the intrinsic worth of these ecosystems but also because we are, by mistreating these ecosystems, abusing our fellow humans.

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